

Naveed Ahmed

Associate Professor

US-Pakistan Center for Advanced Studies in Energy

Email: naveed.ahmed@uspcase.nust.edu.pk

Contact:

LinkedIn:



About

Dr. Naveed Ahmed is working as Associate Professor in the US-Pakistan Center for Advanced Studies in Energy. Dr. Naveed Ahmed has a PhD in Thermal Energy Engineering. Dr. Naveed Ahmed has published 50 research articles & conference papers having a citation count of 861, carried out 2 projects and filed 0 intellectual property.

Qualifications

PhD in Thermal Energy Engineering Xi'an Jiaotong University , China	2016 - 2019
MS in Mechanical NUST, Islamabad , Pakistan	2012 - 2014
BE in Mechatronics NUST, Islamabad , Pakistan	2005 - 2009

Experience

Associate Professor US-Pakistan Center for Advanced Studies in Energy	2025- Present
Assistant Professor US-Pakistan Center for Advanced Studies in Energy	2024 - 2024
Assistant Professor US-Pakistan Center for Advanced Studies in Energy	2022 - 2019
Assistant Professor US-Pakistan Center for Advanced Studies in Energy	2019 - 2024
Manager Technical Ceres Associates Gulf , C-1-C 4th Floor, 1 Saadi Lane -6, D.H.A. Phase 7 Phase 7 Ext Karachi, Karachi City,	2013 - 2015
Project officer ORIC, NUST , CIE Building, NUST, Sector H-12	2010 - 2013
Design Engineer Emerging Systems , Blue Area, Islamabad	2009 - 2010

Awards

Research Projects

National Projects

“Fresnel Lens Concentrating Solar PV Modules

Funding Agency: Pakistan Science Foundation (PSF)

Amount: PKR 5,180,000.00

Status: Approved_inprocess

Designing of Improved Cooking Stove Model with Biomass for Cold Rural Population of Gilgit Baltistan

2020

Funding Agency: Hashoo Foundation

Amount: PKR 75,000.00

Status: Approved_inprocess

International Projects

Examining the Interplay of Dust and Defects: A Comprehensive Experimental Analysis on the Performance of Photovoltaic Modules <i>Ahsan Azeem Muhammad Farasat Abbas Naveed Ahmed Syed Ali Abbas Kazmi Talal Alharbi Abdulelah Alharbi Sherif S.M. Ghoneim</i> <i>Heliyon</i> , Volume 10, Issue 17, Article Number e36796 Impact Factor: 3.400 Quartile: 1 DOI: https://doi.org/10.1016/j.heliyon.2024.e36796	2024
Design optimization of the cooling systems with PCM-to-air heat exchanger for the energy saving of the residential buildings <i>Qian Zhang Thor Alexis Salazar Sazon Fredrik Skaug Fadnes Xianyong Peng Naveed Ahmed Homam Nikpey Mohammad Mansouri Mohsen Assadi</i> <i>Energy Conversion and Management: X</i> , Volume 23, Article Number 100630 Impact Factor: 7.100 Quartile: 1 Citations: 10 DOI: https://doi.org/10.1016/j.ecmx.2024.100630	2024
Data-driven insights for improved heating and cooling predictions: Impact of input parameters on multivariate deep learning algorithms using geothermal borehole field data <i>Naveed Ahmed Mohsen Assadi Qian Zhang Tomasz Śliwa</i> <i>Applied Thermal Engineering</i> , Volume 245, Article Number 122870 Impact Factor: 6.100 Quartile: 1 Citations: 5 DOI: https://doi.org/10.1016/j.applthermaleng.2024.122870	2024
Assessing the impact of borehole field data on AI-based deep learning models for heating and cooling prediction <i>Naveed Ahmed Mohsen Assadi Abdelazim Abbas Ahmed Reyhaneh Banihabib Qian Zhang</i> <i>Geothermics</i> , Volume 117, Article Number 102867 Impact Factor: 3.500 Quartile: 1 Citations: 5 DOI: https://doi.org/10.1016/j.geothermics.2023.102867	2024
Investigating the impact of borehole field data's input parameters on the forecasting accuracy of multivariate hybrid deep learning models for heating and cooling <i>Naveed Ahmed Mohsen Assadi Qian Zhang</i> <i>Energy and Buildings</i> , Volume 301, Article Number 113706 Impact Factor: 6.600 Quartile: 1 Citations: 9 DOI: https://doi.org/10.1016/j.enbuild.2023.113706	2023
Experimental study to optimize the thermal performance of Li-ion cell using active and passive cooling techniques <i>Umer Iqbal Majid Ali Hassan Abdullah Khalid Adeel Waqas Mariam Mahmood Naveed Ahmed Nadia Shahzad Naseem Iqbal Khurram Mehboob</i> <i>Journal of Energy Storage</i> , Volume 70, Article Number 108013 Impact Factor: 9.4 Quartile: 1 Citations: 9 DOI: https://doi.org/10.1016/j.est.2023.108013	2023
Evaluating the techno-economic impact of decarbonizing buildings by using borehole heat exchangers in comparison to fuel-based systems <i>Abdelazim Abbas Ahmed Adib Kalantar Mohsen Assadi Aneta Sapińska-Śliwa Tomasz Sliwa Naveed Ahmed Szymon Rogozik</i> <i>Energy for Sustainable Development</i> , Volume 76, Article Number 101262 Impact Factor: 4.400 Quartile: 2 Citations: 7 DOI: https://doi.org/10.1016/j.esd.2023.101262	2023
Performance Evaluation of an Evacuated Flat-Plate Collector System for Domestic Hot Water Applications <i>Hamza Saeed Mariam Mahmood Hassan Nazir Adeel Waqas Naveed Ahmed Majid Ali Abdul Haseeb Muhammad Bilal Sajid</i> <i>Journal of Solar Energy Engineering, Transactions of the ASME</i> , Volume 145, Issue 5, Article Number:051006, Pages:12 Impact Factor: 2.3 Quartile: 3 Citations: 3 DOI: 10.1115/1.4056790	2023
Performance assessment and root-cause analysis of a deteriorating On-Grid Industrial PV System for the identification of newly originating power degrading defect <i>Raja ammar tasadduq Khan Muhammad Farasat Abbas Atif Naveed Khan Naveed Ahmed Mumtaz Ahmed Qaisrani Mohsen Assadi</i> <i>Energy for Sustainable Development</i> , Volume 76, Article Number 101306 Impact Factor: 5.5 Quartile: 2 Citations: 5 DOI: https://doi.org/10.1016/j.esd.2023.101306	2023

Techno-economic analysis of a biogas-fueled micro gas turbine cogeneration system with seasonal thermal energy storage <i>Qian Zhang Reyhaneh Banihabib Fredrik Skaug Fadnes Thor Alexis Salazar Sazon Naveed Ahmed Mohsen Assadi</i> <i>Energy Conversion and Management</i> , Volume 292, Article Number 117407 Impact Factor: 9.900 Quartile: 1 Citations: 20 DOI: https://doi.org/10.1016/j.enconman.2023.117407	2023
Solar-assisted hybrid oil heating system for heavy refinery products storage <i>Naseer ahmad Khan Asif Hussain Khoja Naveed Ahmed Fahid Riaz Mariam Mahmood Majid Ali M.A Kalam M.A Mujtaba</i> <i>Case Studies in Thermal Engineering</i> , Volume 49, Article Number 103276 Impact Factor: 6.8 Quartile: 1 Citations: 7 DOI: https://doi.org/10.1016/j.csite.2023.103276	2023
Thermal performance of cascaded and combined sensible-latent heat storage tank under fluctuations in sunlight and electric demand <i>Karem Elsayed Elfeky Abubakar Gambo Mohammed Naveed Ahmed Qiuwang Wang</i> <i>Applied Thermal Engineering</i> , Volume 229, Article Number 120575 Impact Factor: 6.100 Quartile: 1 Citations: 10 DOI: https://doi.org/10.1016/j.applthermaleng.2023.120575	2023
Potential Assessment and Economic Analysis of Concentrated Solar Power against Solar Photovoltaic Technology <i>Sahil Orangzeb Mumtaz A. Qaisrani M. Basit Shafiq Naveed Ahmed M. Sana Ullah Sahar Sana Ullah Muhammad Umer Farooq Fang Jiabin</i> <i>International Journal of Energy Research</i> , Volume 2023, Article ID 3611318, 26 pages Impact Factor: 4.300 Quartile: 1 Citations: 8 DOI: https://doi.org/10.1155/2023/3611318	2023
Techno-economic assessment of evacuated flat-plate solar collector system for industrial process heat <i>Zohaib Hassan Mariam Mahmood Naveed Ahmed Muhammad Hamza Saeed Rashid Khan Muhammad Mujtaba Abbas Md Abul Kalam Fares Almomani</i> <i>Emad Abdelsalam</i> <i>Energy Science & Engineering</i> , Volume:11, Issue:6, Page:2185-2201 Impact Factor: 3.8 Quartile: 3 Citations: 1 DOI: 10.1002/ese3.1447	2023
Numerical analysis of a novel solar air heater design with V-ribs and jet cooling <i>Muhammad haroon Iqbal Naveed Ahmed Majid Ali Mumtaz A Qaisrani Mariam Mahmood Adeel Waqas Wasif Iqbal Muhammad Bilal Sajid</i> <i>Sustainable Energy Technologies and Assessments</i> , Volume 57, Article Number 103252 Impact Factor: 7.632 Quartile: 2 Citations: 23 DOI: doi.org/10.1016/j.seta.2023.103252	2023
Thermo-mechanical investigation of the multi-layer thermocline tank for parabolic trough power plants <i>Karem Elsayed Elfeky Abubakar Gambo Mohammed Naveed Ahmed Qiuwang Wang</i> <i>Energy</i> , Volume 268, Article Number 126749 Impact Factor: 9.000 Quartile: 1 Citations: 10 DOI: https://doi.org/10.1016/j.energy.2023.126749	2023
Forecasting environmental and social benefits of adopting cleaner technologies in Indian brick manufacturing industry <i>Akhtar Abbas Muhammad Bilal Sajid Jamsheed Sajid Naveed Ahmed</i> <i>Energy for Sustainable Development</i> , Volume 72, Pages 202-211 Impact Factor: 5.655 Quartile: 2 Citations: 6 DOI: https://doi.org/10.1016/j.esd.2022.12.001	2023
Development and validation of Nusselt number correlations for a helical coil based energy storage integrated with solar water heating system <i>Saqib Ayuob Mariam Mahmood Naveed Ahmed Adeel Waqas Hamza Saeed Muhammad Bilal Sajid</i> <i>Journal of Energy Storage</i> , Volume 55, Part D, Article Number 105777 Impact Factor: 8.907 Quartile: 1 Citations: 17 DOI: https://doi.org/10.1016/j.est.2022.105777	2022
Charging and discharging characterization of a novel combined sensible-latent heat thermal energy storage system by experimental investigations for medium temperature applications <i>Malik sarmad Zahid Naveed Ahmed Mumtaz A.Qaisrani Mariam Mahmood Majid Ali Adeel Waqas Mohsen Assadi</i> <i>Journal of Energy Storage</i> , Volume 55, Part C, Article Number 105612 Impact Factor: 8.907 Quartile: 1 Citations: 22	2022

DOI: <https://doi.org/10.1016/j.est.2022.105612>

Evaluation of possible integration of solar chimney power plants with high-rise buildings: A numerical analysis

2022

Muhammad Saad Naveed Ahmed Lorenzo Giovannini Mariam Mahmood Muhammad Usman Rafi Mumtaz A.Qaisrani
Journal of Building Engineering, Volume 60, Article Number 105188

Impact Factor: 7.144 | **Quartile:** 1 | **Citations:** 6

DOI: <https://doi.org/10.1016/j.jobe.2022.105188>

Thermal performance enhancement of shell and helical coil heat exchanger using MWCNTs/water nanofluid

2022

M. Basit Shafiq Usman Allauddin Mumtaz A. Qaisrani Tauseef-ur- Rehman Naveed Ahmed M. Usman Mushtaq Hafiz Muhammad Ali
Journal of Thermal Analysis and Calorimetry, Volume 147, Issue 21, Pages 12111-12126

Impact Factor: 3.000 | **Quartile:** 2 | **Citations:** 38

DOI: <https://doi.org/10.1007/s10973-022-11405-5>

Energetic, economic, and greenhouse gas emissions assessment of biomass and solar photovoltaic systems for an industrial facility

2022

Jamsheed Sajid Muhammad Bilal Sajid Muhammad Muneeb Ahmad Muhammad Kamran Rameen Ayub Naveed Ahmed Mariam Mahmood Akhtar Abbas
Energy Reports, Volume 8, Pages 12503-12521

Impact Factor: 4.937 | **Quartile:** 2 | **Citations:** 15

DOI: doi.org/10.1016/j.egyr.2022.09.041

Performance enhancement of solar updraft tower plant using parabolic chimney profile configurations: A numerical analysis

2022

Muhammad Saad Naveed Ahmed Mariam Mahmood Muhammad Bilal Sajid
Energy Reports, Volume 8, Pages 4661-4671

Impact Factor: 4.937 | **Quartile:** 2 | **Citations:** 17

DOI: <https://doi.org/10.1016/j.egyr.2022.03.134>

Techno-economic analysis of a hybrid district heating with borehole thermal storage for various solar collectors and climate zones in Pakistan

2022

Hafiz muhammad Ushamah Naveed Ahmed K.E.Elfekey Mariam Mahmood Mumtaz A.Qaisrani Adeel Waqas Qian Zhang
Renewable Energy, Volume 199, Pages 1639-1656

Impact Factor: 8.634 | **Quartile:** 1 | **Citations:** 23

DOI: <https://doi.org/10.1016/j.renene.2022.09.059>

Advances in Solar PV Systems; A Comprehensive Review of PV Performance, Influencing Factors, and Mitigation Techniques

2022

Adnan Aslam Naseer Ahmed Safian Ahmed Qureshi Mohsen Assadi Naveed Ahmed
Energies, Volume 15, Issue 20, Article Number 7595

Impact Factor: 3.200 | **Quartile:** 3 | **Citations:** 71

DOI: <https://doi.org/10.3390/en15207595>

Thermal management of solar photovoltaic module by using drilled cylindrical rods integrated with phase change materials

2022

Muhammad Shoaib Sheher Yar Khan Naveed Ahmed Mariam Mahmood Adeel Waqas Mumtaz A.Qaisrani Nadia Shehzad
Journal of Energy Storage, Volume 52, Part B, Article Number 104956

Impact Factor: 8.907 | **Quartile:** 1 | **Citations:** 21

DOI: <https://doi.org/10.1016/j.est.2022.104956>

Experiment and Numerical Analysis of Thermal Performance of a Billboard External Receiver

2022

Jiabin Fang Mumtaz A. Qaisrani Nan Tu injia Wei Zhenjie Wan Yabin Jin Muhammad Khalid Naveed Ahmed
Energies, Volume 15, Issue 6, Article Number 2188

Impact Factor: 3.252 | **Quartile:** 3 | **Citations:** 3

DOI: <https://doi.org/10.3390/en15062188>

Preparation and Characterisation of Sustainable Wood Plastic Composites Extracted from Municipal Solid Waste

2021

Shahnaz Shahani Zhongquan Gao Mumtaz A. Qaisrani Naveed Ahmed Haseeb Yaqoob Fuad Khoshnaw Farooq Sher
Polymers, Volume 13(21), Article Number 3670

Impact Factor: 4.329 | **Quartile:** 1 | **Citations:** 36

DOI: <https://doi.org/10.3390/polym13213670>

Thermal analysis of macro-encapsulated phase change material coupled with domestic gas heater for building heating <i>Fawad Ahmed Mariam Mahmood Naveed Ahmad Majid Ali Adeel Waqas</i> <i>Sustainable Energy Technologies and Assessments</i> , Volume 47, Article Number 101533 Impact Factor: 7.632 Quartile: 2 Citations: 11 DOI: https://doi.org/10.1016/j.seta.2021.101533	2021
Techno-economic potential assessment of mega scale grid-connected PV power plant in five climate zones of Pakistan <i>Adeel Waqas Naseer Ahmed Atif Naveed Khan Naveed Ahmed Adnan Aslam Kashif Imran Muhammad Bilal Sajid</i> <i>Energy Conversion and Management</i> , Volume 237, Article Number 114097 Impact Factor: 11.533 Quartile: 1 Citations: 60 DOI: https://doi.org/10.1016/j.enconman.2021.114097	2021
Thermal management of solar PV module by using hollow rectangular aluminum fins <i>Sheher Yar Khan Adeel Waqas Naveed Ahmad Mariam Mahmood Nadia Shahzad Muhammad Bilal Sajid</i> <i>Journal of Renewable and Sustainable Energy</i> , Volume 12, Article Number 063501 Impact Factor: 2.219 Quartile: 4 DOI: https://doi.org/10.1063/5.0020129 .	2020
Thermal performance analysis of thermocline combined sensible- latent heat storage system using cascaded-layered PCM designs for medium temperature applications <i>Naveed Ahmed Elfeky KE Lin Lu Q.W. Wang</i> <i>Renewable Energy</i> , Volume 152, Pages 684-697 Impact Factor: 8.001 Quartile: 1 Citations: 80 DOI: https://doi.org/10.1016/j.renene.2020.01.073	2020
Thermal and economic evaluation of phase change material volume fraction for thermocline tank used in concentrating solar power plants <i>K.E. Elfeky Naveed Ahmed Lin lu Qiuwang Wang A.G. Mohammed</i> <i>Applied Energy</i> , Volume 267, Article Number 115054 Impact Factor: 9.746 Quartile: 1 Citations: 53 DOI: https://doi.org/10.1016/j.apenergy.2020.115054	2020
Optimization of thermal performance in thermocline tank thermal energy storage system with the multilayered PCM(s) for CSP tower plants <i>K.E. Elfeky Naveed Ahmed Xinyi Li Lin Lu Qiuwang Wang</i> <i>Applied Energy</i> , Volume 243, Pages 175-190 Impact Factor: 8.848 Quartile: 1 Citations: 70 DOI: https://doi.org/10.1016/j.apenergy.2019.03.182	2019
Thermal and economic evaluation of thermocline combined sensible-latent heat thermal energy storage system for medium temperature applications <i>K.E. Elfeky Lin Lu Q.W. Wang Naveed Ahmed</i> <i>Energy Conversion and Management</i> , Volume 189, Pages 14–23 Impact Factor: 8.208 Quartile: 1 Citations: 99 DOI: doi:10.1016/j.enconman.2019.03.040	2019
Numerical characterization of thermocline behaviour of combined sensible- latent heat storage tank using brick manganese rod structure impregnated with PCM capsules <i>K.E. Elfeky Mumtaz A.Qaisrani Q.W. Wang Naveed Ahmed</i> <i>Solar Energy</i> , Volume 180, Pages 243-256 Impact Factor: 4.608 Quartile: 2 Citations: 46 DOI: doi:10.1016/j.solener.2019.01.001	2019
Numerical comparison between single PCM. and multi-stage PCM based high temperature thermal energy storage for CSP tower plants <i>K.E. Elfeky Naveed Ahmed Qiuwang Wang</i> <i>Applied Thermal Engineering</i> , Volume 139, Pages 609-622 Impact Factor: 4.026 Quartile: 1 DOI: https://doi.org/10.1016/j.applthermaleng.2018.04.122 Received	2018
A new configuration of winglet longitudinal vortex generator to enhance heat transfer in a rectangular channel <i>L.H. Tang W.X. Chu Naveed Ahmed M. Zeng</i>	2016

Conference Proceedings

Numerical modelling of a high temperature borehole thermal energy storage system: Norway case study <i>Abdelazim Abbas Ahmed R Gholami Naveed Ahmed</i> <i>Fourth Conference of Computational Methods & Ocean Technology: IOP Conference Series: Materials Science and Engineering: , res.country(166,)</i> Citations: N/A DOI: 10.1088/1757-899X/1294/1/012059	2023
Assessing impact of borehole field data's input parameters on hybrid deep learning models for heating and cooling forecasting: A local and global explainable AI analysis <i>Naveed Ahmed Mohsen Assadi Qian Zhang Abdelazim Abbas Ahmed</i> <i>IOP Conference Series: Materials Science and Engineering: Fourth Conference of Computational Methods & Ocean Technology, res.country(166,)</i> Citations: N/A DOI: 10.1088/1757-899X/1294/1/012056	2023
Performance Analysis of Mixed Mode Solar Dryer for Tobacco Leaves † <i>Ali wahaj Abedi Naveed Ahmed</i> <i>International Conference on Energy, Power and Environment, Gujrat, Pakistan, res.country(177,)</i> Citations: N/A DOI: 10.3390/engproc2021012102	2021
The Thermal Analysis of a Sensible Heat Thermal Energy Storage System Using Circular-Shaped Slag and Concrete for Medium- to High-Temperature Applications † <i>Yasir saleem Jamsheed Sajid Naveed Ahmed</i> <i>International Conference on Energy, Power and Environment, res.country(177,)</i> Citations: N/A DOI: 10.3390/engproc2021012099	2021
Numerical analysis of novel solar central receiver using different types of heat transfer fluids <i>Hassan Bashir Naveed Ahmed Adeel Waqas Mariam Mahmood Nadia Shahzad</i> <i>3rd International Conference on Sustainable Energy Technologies (ICSET 2021), res.country(177,)</i> Citations: N/A DOI: 0000	2021
Mathematical Modeling and Thermal Analysis of Evacuated Flat Plate Collector in Pakistan <i>Zohaib Hassan Mariam Mahmood Mariam Mahmood Adeel Waqas Majid Ali Naveed Ahmed</i> <i>IEEE International Conference on Emerging Power Technologies (ICEPT-2021), res.country(177,)</i> Citations: 2 DOI: https://doi.org/10.1109/ICEPT51706.2021.9435492	2021
Effect of fixed and seasonal tilt angles on the performance of an ON-Grid PV plants <i>Adnan Aslam Naveed Ahmed Mariam Mahmood Atif Naveed Naseer Ahmed Kashif Imran</i> <i>2021 International Conference on Emerging Power Technologies (ICEPT), res.country(177,)</i> Citations: N/A DOI: 10.1109/ICEPT51706.2021.9435464	2021
Influence of the PCM Volume Fraction on the Thermal Performance of Thermocline Thermal Energy Storage Tank used In CSP Plants <i>K.E. Elfeky A.G.Mohammad Naveed Ahmed Wangqiu Wang Zhuotuo tan K.E. Elfeky A.G.Mohammad Naveed Ahmed Wangqiu Wang Zhuotuo tan</i> <i>11th International Conference on Applied Energy, res.country(196,)</i> Citations: N/A DOI: ICAE-137	2019
Numerical investigation of the melting temperature effect on the performance of thermocline thermal energy storage tankfor CSP <i>Naveed Ahmed K.E Elfeky Qiuwang Wang SM.A. Naqvi</i> <i>10th International Conference on Applied Energy (ICAE 2018), res.country(48,)</i> Citations: N/A DOI: https://doi.org/10.1016/j.egypro.2019.01.731	2018

An Experimental Study On The New Electric Water Heater Based On Phase Change

2017

Z.L.Cheng Z.W. Ren Q.L. Li Q.W. Wang Z.L.Cheng Z.W. Ren Q.L. Li Q.W. Wang Naveed Ahmed S.S. Wei
12th International Green Energy Conference, res.country(48,)

Citations: N/A

DOI: IGEC2017-171

Book Chapters

Working, Modeling and Applications of Molten Salt TES Systems

2022

Mumtaz A. Qaisrani Naveed Ahmed Qiuwang Wang

In: *Book on Synergy Development in Renewables Assisted Multi-carrier Systems*, 1st Edition, Chapter 11, Pages 279-309

Citations: 5

DOI: https://doi.org/10.1007/978-3-030-90720-4_11

Editorial Activities

Reviewed Papers for Journals

2021

Impact Factor: 8.01

Reviewed Papers for Journals

2021

Impact Factor: 8.01

Edited Journal Issue / Proceeding / Book

2020

Impact Factor: 0